# HPC Irrigation Controller Product Specification – Updated January 2023

**Part 1 – General**

* 1. The controller shall be a full-featured residential and light commercial product for the purpose of irrigation operation, management, and monitoring of control valves and sensors. The controller shall be fully integrated with Wi-Fi connectivity and the Hydrawise® Irrigation Management Platform. The controller shall be of a modular design that is provided with a standard 4-station output module. The controller shall be expandable with 3-, 9-, or 16-station modules with a maximum of 23 conventional stations. The controller shall also accommodate a PC-DM Decoder Output Module for use with EZ-1 Decoders, with a maximum of 32 stations total.

**Part 2 – Controller Enclosures**

* 1. Controller shall be available in the following options:
1. Indoor/outdoor plastic wall-mount enclosure
2. The controller shall be the Hunter Industries HPC-400 model.
3. Preassembled controller shall have a height of 9" (22.9 cm), a width of 10" (25.4 cm), and a depth of 4½" (11.4 cm).
4. The controller shall be furnished in an indoor/outdoor, weather-resistant, wall-mount plastic enclosure suitable for remote control with a key lock.
5. The controller shall provide modular expansion up to 23 conventional stations, 28 stations for two-wire only, or 32 hybrid conventional/two-wire stations.
6. All station outputs shall have metal oxide varistor (MOV) and copper induction coil surge suppression.
7. Cabinet shall be NEMA 3R, IP44-rated.
8. A 751CH key shall be mounted in the enclosure door for security.
	1. Two (2) keys shall be provided for each controller.
	2. Warranty
9. The controller shall be installed in accordance with the manufacturer’s published instructions. The controller shall carry a conditional 2-year exchange warranty. The automatic controller(s) shall be the HPC Controller, as manufactured for Hunter Industries Incorporated, San Marcos, California.

**Part 3 – Controller Hardware**

* 1. Control Display
1. Display shall be a 2.9" (7.3 cm) full-color graphical touch screen interface, allowing for programming and manual operation.
2. All programming shall be accomplished with the use of the touchscreen or with a smartphone, tablet, or PC.
	1. Control Panel
3. Operation from the control panel shall be performed via touchscreen only, with no available buttons or dials.
4. The control panel door shall fully close and protect the wiring and internal components from moisture and dust.
	1. Controller Power
5. Depending on requirements, transformer input shall be 120 VAC at 60 Hz or 230 VAC at 50 Hz.
6. Transformer output shall be 24 VAC, 1 A. Maximum output per station at 24 VAC shall be up to 0.56 A. Maximum output per P/MV terminal at 24 VAC shall be up to 0.28 A.
	1. Controller Surge Protection

A. The controller transformer shall be equipped with an internal, self-resetting thermal circuit breaker to protect against overheating.

* 1. Station Modules
1. The controller shall have a base model capacity of four stations, consisting of one 4-station output module.
2. Controller shall provide three additional station module slots.
	1. Controller shall be expandable up to a maximum of 32 stations.
	2. Controller shall use a maximum of four station output modules.
	3. Station modules shall be secured against field wiring tension by the power lock.
	4. Compatible station modules shall include PCM-300 (3-station), PCM-900 (9-station), PCM-1600 (16-station), and PC-DM (EZ Decoder Output Module).
3. Each station output shall supply up to 0.56 A at 24 VAC for solenoid activation.
4. Each station output shall have metal oxide varistor (MOV) surge protection, supplemented by copper induction coils.
5. The controller shall have self-diagnostic, electronic short-circuit protection that detects a faulty circuit, continues watering the remainder of the program, and reports the faulty station on the display. The diagnostic function shall also be capable of being initiated manually by the user.

	1. Sensor Inputs
		1. The controller shall be equipped with two dedicated general purpose sensor ports.
			1. The sensor inputs shall be compatible with any standard normally closed or normally open “Clik-type” sensors for automatic shutdown during rain, freeze, soil moisture, and/or wind events.
			2. The sensor inputs shall also be compatible with the Hunter HC Flow Meter (wired or wireless) for flow monitoring, alerts, and reporting.
	2. P/MV Outputs
		* 1. The controller shall have one built-in P/MV (24 VAC) output with a capacity of up to 0.28 A.
			2. The P/MV output shall be selectable as “active” or “disabled” per each individual station.
	3. Common Wire
6. One fixed common wire terminal shall be available within the controller chassis to be used in conjunction with station output and P/MV wiring.
	1. SmartPort® Wiring Harness

A. The controller shall be compatible with a SmartPort Wiring Harness for easy connection of optional wireless remote controls.

B. For international or short-range uses, the wireless remote control shall be the Hunter ROAM model with a useful range of up to 1,000' (330 m).

C. For United States uses or long-range uses, where permitted, the wireless remote shall be the Hunter ROAM XL model with a useful range of up to 2 mi (3.2 km).

* 1. Wi-Fi Information
1. The controller shall be equipped with built-in Wi-Fi technology.
2. The operation shall be 802.11 b/g/n protocol.
3. The Wi-Fi frequency shall be 2.4 GHz only.
4. The provided security shall have the ability to auto-detect and offer the following security settings: WPA2, WPA Personal, and WPA Auto.

**Part 4 – Programming and Operational Software**

4.1 General

1. The control panel shall be available in an English language display. The display shall include selectable settings for date, time, and units of measurement.
2. Hydrawise® Software shall be fully translated and available in multiple languages.

4.2 Programming

1. The standard programming option allows for six independent irrigation programs and six start times per program.
2. The controller shall be capable of running any one station (+P/MV) at a time.
3. The controller programs shall have five weekly schedule options to choose from:
4. 7-day calendar
5. Up to 31-day interval calendar
6. Odd-day/even-day programming
7. Odd-week/even-week programming
8. 365-day calendar clock to accommodate true odd-even watering
9. Each station shall be programmable in minutes of run time from 1 minute to 24 hours.
10. The controller shall be equipped with programmable Non-Water Days to prevent watering on selected days of the week.
11. Each zone may be assigned a programmable Delay Between Stations to allow for slow-closing valves or pressure recharging.
12. Delays between stations shall be programmable in 1-second increments from 0 to 3,600 seconds (60 minutes).
13. A P/MV delay shall be programmable in 1-second increments from 0 to 3,600 seconds (60 minutes).

4.3 Software

1. The controller shall be connected to Hydrawise Software. See Hydrawise Written Specifications for more detailed software information.
	* + 1. Hydrawise Software is available via web login and as a mobile application that can be downloaded via the Apple® iOS App Store and Google Play™.
2. The controller shall utilize Predictive Watering™ Technology adjustments to automatically modify irrigation scheduling based on local weather data and forecast information.
3. The controller shall also have Seasonal Adjust settings from 0% to 300% for offline programming.

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